

CLAIMS

1. Process for the preparation of urea granules in a fluid-bed granulator, by using at least one feeding device to feed a urea melt in the form of a film to a fluidized bed of solid urea nuclei, upon which the nuclei grow by solidification of the urea melt on the nuclei, characterized in that the amounts of biuret and water in the urea melt and in the urea granules fulfill the following relation
- $$\frac{b_m \cdot b_g}{w_m \cdot (w_m - w_g)} = 0.1-20$$
- wherein
- $b_m$ = the % by weight of biuret in the urea melt
- $b_g$ = the % by weight of biuret in the urea granules
- $w_m$ = the % by weight of water in the urea melt
- $w_g$ = the % by weight of water in the urea granules.
2. Process according to claim 1, characterized in that the value of the quotient in the relation is 0.1 – 10.
3. Process according to claim 1, characterized in that value of the quotient in the relation is 0.2 – 5.
4. Process according to any one of claims 1-3, characterized in that the urea melt is obtained in and/or downstream of an evaporator.
5. Process according to any one of claims 1-4, characterized in that the urea melt is obtained by using two evaporators arranged in series, with part of the urea melt leaving the first evaporator being fed to the second evaporator and part of the urea melt leaving the first evaporator being combined with the urea melt leaving the second evaporator.
6. Process according to any one of claims 1-5, characterized in that water is added to the urea melt between the evaporator and the feeding device to obtain the urea melt.
7. Process according to any one of claims 1-6, characterized in that a biuret-rich stream is added between the evaporator and the feeding device to obtain the urea melt.
8. Process according to any one of claims 1-7, characterized in that a vessel is present between the evaporator and the feeding device in which the urea melt is obtained.
9. Process according to any one of claims 1-8, characterized in that the

temperature of the urea melt is raised between the evaporator and the feeding device to obtain the urea melt.

10. Process according to any one of claims 1-9, characterized in that the urea melt is fed to the fluidized bed in the form of a virtually closed conical film.
- 5 11. Process according to any one of claims 1-10, characterized in that the feeding devices comprise a central conduit for feeding the urea melt to the fluid-bed and a conduit concentric with the central conduit through which a gas stream is delivered.
- 10 12. Process according to any one of claims 1-11, characterized in that the velocity of the urea melt when exiting the central channel of the feeding device is between 10 and 25 m/s.
13. Process according to any one of claims 1-12, characterized in that the urea melt is fed to the fluid-bed in a higher place than the gas stream.
14. Process according to any one of claims 1-13, characterized in that the gas stream is applied with a velocity of 50-400 m/s, under a feed pressure of 15 0.11-0.74 MPa.
15. Process according to any one of claims 1-14, characterized in that the weight ratio of the gas stream to the urea melt is 0.2-0.6.